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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,057

07/09/2004

Takashi Ito

36881

1628

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7590

09/28/2006

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EXAMINER

MURALIDAR, RICHARD V

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/501,057

Applicant(s)

ITO ET AL.

Examiner

Richard V. Muralidar

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/09/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 lines 1-2 present ambiguous information- "*A multimode communication terminal having a secondary battery controlling a charging operation...*" It is unclear whether it is the multimode communication terminal that is performing the charging operation, or the secondary battery that is performing the charging operation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Yutaka et al. [J.P. 2001-086556].

With respect to claim 1, Yutaka discloses a multimode communication terminal [Fig. 1, the compound portable telephone] having a secondary battery [par. 0004, the cell] controlling a charging operation of the secondary battery in accordance with a communication schema during communication, said multimode communication terminal comprising: communication means capable of communicating in accordance

with a plurality of communication schemas [par. 0008- first and second radio methods]; communication schema switching means [Fig. 1, control section 106] for controlling the communication means in a manner that a communication schema is switched into a designated communication schema among the plurality of communication schemas thereby to communicate in accordance with the designated communication schema; charging control means for controlling a charging operation of the secondary battery by a different charging control method in accordance with each of the plurality of communication schemas; and charging control method selecting [the selection means is to use PDS and PHS as the determining factor to charge the battery according to the power draw requirements of either PDS or PHS] means for selecting the charging control method for charging the secondary battery by the charging control means in accordance with the communication schema of communication being performed by the communication means [par. 0008; 0010; 0013-0016; Yutaka's invention charges a battery for a compound telephone that operates using two standards (i.e. communication schemas- PDS and PHS). Each of these standards imposes a different power draw on the battery, and thus requires a different charging protocol depending on which standard is currently in use. Control section 106 determines which standard is in use with inputs from section 103-105, then outputs the appropriate commands to section 101 and 102 to activate the required charging protocol to charge the battery during that corresponding period of use].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being obvious over Yutaka et al. [J.P. 2001-086556] in view of Bachner et al. [U.S. 6184654] and Fujiwara [U.S. 6088599].

With respect to claim 2, Yutaka discloses a battery voltage detection means for detecting a battery voltage of the secondary battery [par. 0015- residual cell detection 103 carries out A/D conversion of the cell voltage]; and charging current detection means for detecting a charging current supplied to the secondary battery [par. 0015, 0016; the cell residue detecting element constitutes detection of both current and voltage, since the invention displays accurate battery residual energy for display and charger control], wherein the communication means is conformed to a CDMA communication schema [par. 0017, PDC mode corresponds 1 schema, the PDC standard, which is being phased out in favor of CDMA because of the inherent problems of PDC, such as weak broadcast strength and poor voice quality- see *Wikipedia* attachment] and a TDMA communication schema [par. 0017, PHS conforms to TDMA], and stops charging operation when a battery voltage of the secondary battery detected by the battery voltage detection means is equal to or larger than the

Art Unit: 2838

predetermined voltage threshold value [par. 0026; full charge is detected; a specified upper voltage threshold is the standard end to charging operations for voltage controlled chargers].

Yutaka does not expressly disclose the charging control switches between constant current and constant current/constant voltage charging based on whether TDMA or CDMA communications are occurring; however, such capability is implicit, as hinted at in [par. 0007 and 0013].

Bachner discloses that the charging control means performs constant-current and constant voltage charging control [col. 7 lines 53-56] when the communication means communicates based on the CDMA communication schema [col. 1 lines 36, a CDMA phone is being charged].

Fujiwara discloses that while the communication means communicates based on the TDMA communication schema, the charging control means performs constant-current charging control [Fig. 2, TDMA processing unit and CPU; first and second constant current circuits 591 and 592; col. 4 lines 22-30] when a battery voltage of the secondary battery detected by the battery voltage detection means is less than a predetermined voltage threshold value [this is the standard method of initializing charging operations, by checking to see when the battery has dropped below a certain voltage. In this case, when TDMA communications have depleted the battery to a certain point, constant current charging will initialize to keep the battery charged].

It would have been obvious to one of ordinary skill in the art at the time of the invention to specify the communication schemas of Yutaka be used to control a

Art Unit: 2838

charger for a compound phone such that the resultant charging operations associate *TDMA with constant current charging* [Fujiwara, col. 1 lines 26-32; col. 4 lines 22-30] and *CDMA with constant current/constant voltage charging* [Bachner, col. 1 line 36; col. 7 lines 53-56], since it is already known that these two cell-phone standards are best charged each by its own respective charging methods, as mentioned above.

With respect to claim 3, Yutaka discloses detection timing generation [par. 0015-“timing which carries out A/D conversion of the cell voltage”] means for generating, in accordance with the communication schema, a timing for detecting a charging current supplied to the secondary battery by the charging current detection means and a timing for detecting a battery voltage of the secondary battery by the battery voltage detection means, wherein the detection timing generation means generates timings of a predetermined period when the communication means communicates based on the CDMA communication schema [par. 0015; par. 0021], and generates timings avoiding a signal transmission timing of the communication means when the communication means communicates based on the TDMA communication schema [par. 0025; 0026].

With respect to claim 4, Yutaka discloses the multimode communication terminal according to claim 1 wherein the charging control means switches the charging control method in accordance with switching of the communication schema for communication performed by the communication means [par. 0008; 0010; 0013-0016; the charger selection switches between PDC and PHS charging protocols, based on whether the phone is using PDC or PHS standard at the time].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard V. Muralidar whose telephone number is 571-272-8933. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RVM
9/25/2006


KARL EASTHOM
SUPERVISORY PATENT EXAMINER